## AUG 1 4 2003 E

Aventis Pharma S.A.

Rosier, Marie

Prades, Catherine

Lemoine, Cendrine

Naudin, Laurent

Denefle, Patrice

Duverger, Nicolas

Brewer, Bryan

Remaley, Alan

Fojo, Silvia

<120> Regulatory Nucleic Acid for the ABC1 Gene, Molecules Modifying Its Activity and Therapeutic Uses

<130> 3806.0505

<140> US 09/846,456

<141> 2001-05-02

<150> US 60/201,280

<151> 2000-05-02

<160> 28

<170> PatentIn version 3.0

<210> 1

<211> 3231

<212> DNA

<213> Homo sapiens

<400> 1 60 acagggcatg gtggcaggtg cctgtaatct cagttactcg ggaggtggag gttgcaatga gcccagatcg caccattgca ctccagcctg ggcaacaaaa ggtgaaactc catctcaatt 120 180 aaaaaaaaa gaatgatttt ggtggtcgac ttcaaatagg taggagaaga aggagagagg 240 agatggaggg tcagggagat ctaattactc tctaaaatca tgctaggaaa gataacacct 300 tttaataaca ctctctgctt ttataacatc attctgccaa ggagctcaaa ggtttcaaca 360 aagttcactt tcagaaaacc cctttgagga agacagaata tacatcttct ctccatttta 420 aagatgaaga aacaggccgg gcacaatggc taatgcctgt aatcccagca ctttgggagg 480 ctgaggccag aggatcgctt gagctccaga gtttgagacc agcctggata acatggcaaa 540 accctgtctc tacaaaaaaa atacaaaaat tagatgggtg tggtggcatg cacctgtggt 600 cccagctact tgggaggcta aggtgggagg atcgcttgag cccagggagt caagtctaca 660 ctgagccatg attggatcac tgcactccag cctgggtaga cagagcaaga ccctgtctca 720 aaaaaaagaa atgaaagaga aagaaagaaa gaggagagga gaggagatga ggggaggagg 780 840 gatgaaacag aggcagaaag actttacgta aattgctcat catgtggttg tcaagtttga 900 ccccaaaacc caatttattg accaaggtta ttctttgact gaggcaaggg ggtccgctct 960 cctgggcctt gggctttaga aagctcatct ctggcctttc tgagatccat ccctttcttt 1020 ttatttttct tgacacggag tcttgctctg tcactcaggc tggagtgcag tggcatgatc 1080 tcgactcact gtaacctctg cctcccgggt tcaagcgatt ctcctgcctc agcctcctga 1140 gataacaggc gcccgccacc acatctggct aatttttgta tttttagtaa agactgggtt 1200 1260 ctcccaaagt gctgggatta caggcatgag ccactgcgcc cagctcagat ccatcccttt 1320 ctaagggcaa acagtccatg gtgcaaaggg gccatgccac ccagagttat gagtacctgg 1380 gactccagaa ttccttgcct ggtggcctcc acatgcactt ccagggcctg cttgggcctc 1440 ttctatgcgt ctgtcctgag tgttgataga accactgatg tgagtacctg ggcttgagcc 1500 gtggcctgga gatcctgttg actgtagcat ggagggggct tgtgcagctg aatgtctgca 1560 tgcaggtggt gggagttctg gaatatgatg gagctggagg tgggaagaga agtaggcttg 1620 gggcagctct ctcatgccac ctcattctgg ccaaaactca ggtcaaactg tgaagagtct 1680 aaatgtgaat ctgcccttca aggtggctac aaaggtatct ttgtcaaggt aggagacctt 1740 gtggcctcca cgtgcacttc cagggcctgc ttgggcctct tctacgggtc tgtcctgagt 1800 cttctatgaa tccttcaggg cagattcata tttagactct tcacagtttg acctgagttt tggccagaat aaggtgacat ttagtttgtt ggcttgatgg atgacttaaa tatttagaca 1860

•						
tggtgtgtag gcc	tgcattc cta	actcttgc	ctttttttt	gcccctccag	tgttttgggt	1920
agttttgctc ccc	tacagcc aa	aggcaaac	agagaagttg	gaggtctgga	gtggctacat	1980
aattttacac gac	tgcaatt ct	ctggctgc	acttcacaaa	tgtatacaaa	ctaaatacaa	2040
gtcctgtgtt ttt	atcacag gga	aggctgat	caatataatg	aaattaaaag	ggggctggtc	2100
catattgttc tgt	gtttttg tt	tgtttgtt	ttgtttgttt	ctttttttgt	ttttgtggcc	2160
tccttcctct caa	itttatga ag	agaagcag	taagatgttc	ctctcgggtc	ctctgaggga	2220
cctggggagc tca	iggctggg aa	tctccaag	gcagtaggtc	gcctatcaaa	aatcaaagtc	2280
caggtttgtg ggg	ggaaaac aa	aagcagcc	cattacccag	aggactgtcc	gccttcccct	2340
caccccagcc tag	gcctttg aa	aggaaaca	aaagacaaga	caaaatgatt	ggcgtcctga	2400
gggagattca gcc	tagagct ct	ctctcccc	caatccctcc	ctccggctga	ggaaactaac	2460
aaaggaaaaa aaa	attgcgg aa	agcaggat	ttagaggaag	caaattccac	tggtgccctt	2520
ggctgccggg aac	gtggact ag	agagtctg	cggcgcagcc	ccgagcccag	cgcttcccgc	2580
gcgtcttagg ccg	gcgggcc cg	ggcggggg	aaggggacgc	agaccgcgga	ccctaagaca	2640
cctgctgtac cct	ccacccc ca	ccccaccc	cacccacctc	ccccaactc	cctagatgtg	2700
tcgtgggcgg ctg	gaacgtcg cc	cgtttaag	gggcgggccc	cggctccacg	tgctttctgc	2760
tgagtgactg aad	tacataa ac	agaggccg	ggaagggggc	ggggaggagg	gagagcacag	2820
gctttgaccg ata	igtaacct ct	gcgctcgg	tgcagccgaa	tctataaaag	gaactagtcc	2880
cggcaaaaac ccc	gtaattg cg	agcgagag	tgagtggggc	cgggacccgc	agagccgagc	2940
cgacccttct cto	ccgggct gc	ggcagggc	agggcgggga	gctccgcgca	ccaacagagc	3000
cggttctcag ggd	gctttgc tc	cttgtttt	ttccccggtt	ctgttttctc	cccttctccg	3060
gaaggcttgt caa	aggggtag ga	gaaagaga	cgcaaacaca	aaagtggaaa	acaggtaaga	3120
ggctctccag tga	acttactt gg	gcgttatt	gttttgtttc	gaggccaagg	aggcttcggg	3180
aagtgctcgg ttt	cggggac tt	tgatccgg	agccccacat	cccaccact	t	3231

<210> 2

<211> 357

<212> DNA

<213> Homo sapiens

<400> 2
tggaggtctc agctgagagg gctggattag cagtcctcat tggtgtatgg ctttgcagca 60
ataactgatg gctgtttccc ctcctgcttt atctttcagt taatgaccag ccacgggcgt 120
ccctgctgtc agctctggcc gctgccttcc agggctcccg agccacacgc tgggcgtgct 180

<210> 3

<211> 2893

<212> DNA

<213> Homo sapiens

<400> 3 acagggcatg gtggcaggtg cctgtaatct cagttactcg ggaggtggag gttgcaatga 60 120 gcccagatcg caccattgca ctccagcctg ggcaacaaaa ggtgaaactc catctcaatt aaaaaaaaa gaatgatttt ggtggtcgac ttcaaatagg taggagaaga aggagagag 180 agatggaggg tcagggagat ctaattactc tctaaaatca tgctaggaaa gataacacct 240 tttaataaca ctctctgctt ttataacatc attctgccaa ggagctcaaa ggtttcaaca 300 aagttcactt tcagaaaacc cctttgagga agacagaata tacatcttct ctccatttta 360 aagatgaaga aacaggccgg gcacaatggc taatgcctgt aatcccagca ctttgggagg 420 ctgaggccag aggatcgctt gagctccaga gtttgagacc agcctggata acatggcaaa 480 accctgtctc tacaaaaaaa atacaaaaat tagatgggtg tggtggcatg cacctgtggt 540 cccagctact tgggaggcta aggtgggagg atcgcttgag cccagggagt caagtctaca 600 ctgagccatg attggatcac tgcactccag cctgggtaga cagagcaaga ccctgtctca 660 720 aaaaaaagaa atgaaagaga aagaaagaaa gaggagagga gaggagatga ggggaggagg 780 gatgaaacag aggcagaaag actttacgta aattgctcat catgtggttg tcaagtttga 840 CCCCaaaacc caatttattg accaaggtta ttctttgact gaggcaaggg ggtccgctct 900 cctgggcctt gggctttaga aagctcatct ctggcctttc tgagatccat ccctttcttt 960 ttatttttct tgacacggag tcttgctctg tcactcaggc tggagtgcag tggcatgatc 1020 tcgactcact gtaacctctg cctcccgggt tcaagcgatt ctcctgcctc agcctcctga 1080 gataacaggc gcccgccacc acatctggct aatttttgta tttttagtaa agactgggtt 1140 1200 ctcccaaagt gctgggatta caggcatgag ccactgcgcc cagctcagat ccatcccttt 1260 ctaagggcaa acagtccatg gtgcaaaggg gccatgccac ccagagttat gagtacctgg 1320 gactccagaa ttccttgcct ggtggcctcc acatgcactt ccagggcctg cttgggcctc 1380

1440 ttctatgcgt ctgtcctgag tgttgataga accactgatg tgagtacctg ggcttgagcc gtggcctgga gatcctgttg actgtagcat ggagggggct tgtgcagctg aatgtctgca 1500 1560 tgcaggtggt gggagttctg gaatatgatg gagctggagg tgggaagaga agtaggcttg 1620 gggcagctct ctcatgccac ctcattctgg ccaaaactca ggtcaaactg tgaagagtct 1680 aaatgtgaat ctgcccttca aggtggctac aaaggtatct ttgtcaaggt aggagacctt gtggcctcca cgtgcacttc cagggcctgc ttgggcctct tctacgggtc tgtcctgagt 1740 1800 cttctatgaa tccttcaggg cagattcata tttagactct tcacagtttg acctgagttt 1860 tggccagaat aaggtgacat ttagtttgtt ggcttgatgg atgacttaaa tatttagaca tggtgtgtag gcctgcattc ctactcttgc cttttttttt gcccctccag tgttttgggt 1920 1980 agttttgctc ccctacagcc aaaggcaaac agagaagttg gaggtctgga gtggctacat 2040 aattttacac gactgcaatt ctctggctgc acttcacaaa tgtatacaaa ctaaatacaa 2100 gtcctgtgtt tttatcacag ggaggctgat caatataatg aaattaaaag ggggctggtc 2160 catattgttc tgtgtttttg tttgtttgtt ttgtttgttt ctttttttgt ttttgtggcc 2220 tccttcctct caatttatga agagaagcag taagatgttc ctctcgggtc ctctgaggga 2280 cctggggagc tcaggctggg aatctccaag gcagtaggtc gcctatcaaa aatcaaagtc 2340 caggtttgtg gggggaaaac aaaagcagcc cattacccag aggactgtcc gccttcccct 2400 caccccagcc taggcctttg aaaggaaaca aaagacaaga caaaatgatt ggcgtcctga gggagattca gcctagagct ctctctcccc caatccctcc ctccggctga ggaaactaac 2460 2520 aaaggaaaaa aaaattgcgg aaagcaggat ttagaggaag caaattccac tggtgccctt ggctgccggg aacgtggact agagagtctg cggcgcagcc ccgagcccag cgcttcccgc 2580 gcgtcttagg ccggcgggcc cgggcggggg aaggggacgc agaccgcgga ccctaagaca 2640 cctgctgtac cctccaccc caccccaccc cacccactc ccccaactc cctagatgtg 2700 tcgtgggcgg ctgaacgtcg cccgtttaag gggcgggccc cggctccacg tgctttctgc 2760 tgagtgactg aactacataa acagaggccg ggaaggggc ggggaggagg gagagcacag 2820 gctttgaccg atagtaacct ctgcgctcgg tgcagccgaa tctataaaag gaactagtcc 2880 2893 cggcaaaaac ccc

<210> 4

<211> 221

<212> DNA

<213> Homo sapiens

gtaattgcga gcgagagtga gtggggccgg gacccgcaga gccgagccga	tctc 60
ccgggctgcg gcagggcagg gcggggagct ccgcgcacca acagagccgg ttctca	gggc 120
gctttgctcc ttgtttttc cccggttctg ttttctcccc ttctccggaa ggcttg	tcaa 180
ggggtaggag aaagagacgc aaacacaaaa gtggaaaaca g	221
<210> 5	
<211> 159	
<212> DNA	
<213> Homo sapiens	
<400> 5 ttaatgacca gccacgggcg tccctgctgt cagctctggc cgctgccttc cagggc	tccc 60
gagccacacg ctgggcgtgc tggctgaggg aacatggcat gttggcctca gctgag	
ctgctgtgga agaacctcac tttcagaaga agacaaaca	159
210 6	
<210> 6	
<211> 117	
<212> DNA	
<213> Homo sapiens	
<400> 6	
gtaagaggct ctccagtgac ttacttgggc gttattgttt tgtttcgagg ccaagg	aggc 60
ttcgggaagt gctcggtttc ggggactttg atccggagcc ccacatcccc accact	t 117
<210> 7	
<211> 99	
<212> DNA	
<213> Homo sapiens	
<400> 7 tggaggtctc agctgagagg gctggattag cagtcctcat tggtgtatgg ctttgc	agca 60
ataactgatg gctgtttccc ctcctgcttt atctttcag	99
<210> 8	
<211> 99	
<212> DNA	

## <213> Homo sapiens

```
<400> 8
                                                                  60
gtaagcttgg gtttttcagc agcggggggt tctctcattt tttctttgtg gttttgagtt
                                                                  99
ggggattgga ggagggaggg agggaaggaa gctgtgttg
<210>
      9
<211>
      22
<212> PRT
<213> Homo sapiens
<400> 9
Met Ala Cys Trp Pro Gln Leu Arg Leu Leu Leu Trp Lys Asn Leu Thr 10 	 10 	 15
Phe Arg Arg Gln Thr
<210> 10
<211>
      9741
<212>
      DNA
<213> Homo sapiens
<220>
<221> misc_feature
<222>
      (7009)..(7009)
      "n" is chosen from g, a, t and c
<223>
<400> 10
                                                                  60
cttgtttttt ccccggttct gttttctccc cttctccgga aggcttgtca aggggtagga
gaaagagacg caaacacaaa agtggaaaac agttaatgac cagccacggc gtccctgctg
                                                                 120
                                                                 180
tgagctctgg ccgctgcctt ccagggctcc cgagccacac gctgggggtg ctggctgagg
                                                                 240
gaacatggct tgttggcctc agctgaggtt gctgctgtgg aagaacctca ctttcagaag
                                                                 300
gatctctgtt cggctgagct acccacccta tgaacaacat gaatgccatt ttccaaataa
                                                                 360
                                                                 420
agccatgccc tctgcaggaa cacttccttg ggttcagggg attatctgta atgccaacaa
```

480 cccctgtttc cgttacccga ctcctgggga ggctcccgga gttgttggaa actttaacaa 540 atccattgtg gctcgcctgt tctcagatgc tcggaggctt cttttataca gccagaaaga 600 caccagcatg aaggacatgc gcaaagttct gagaacatta cagcagatca agaaatccag 660 ctcaaacttg aagcttcaag atttcctggt ggacaatgaa accttctctg ggttcctgta 720 tcacaacctc tctctcccaa agtctactgt ggacaagatg ctgagggctg atgtcattct 780 ccacaaggta tttttgcaag gctaccagtt acatttgaca agtctgtgca atggatcaaa 840 atcagaagag atgattcaac ttggtgacca agaagtttct gagctttgtg gcctaccaag 900 ggagaaactg gctgcagcag agcgagtact tcgttccaac atggacatcc tgaagccaat 960 cctgagaaca ctaaactcta catctccctt cccgagcaag gagctggccg aagccacaaa 1020 aacattgctg catagtcttg ggactctggc ccaggagctg ttcagcatga gaagctggag 1080 tgacatgcga caggaggtga tgtttctgac caatgtgaac agctccagct cctccaccca 1140 aatctaccag gctgtgtctc gtattgtctg cgggcatccc gagggagggg ggctgaagat caagtctctc aactggtatg aggacaacaa ctacaaagcc ctctttggag gcaatggcac 1200 1260 tgaggaagat gctgaaacct tctatgacaa ctctacaact ccttactgca atgatttgat 1320 gaagaatttg gagtctagtc ctctttcccg cattatctgg aaagctctga agccgctgct 1380 cgttgggaag atcctgtata cacctgacac tccagccaca aggcaggtca tggctgaggt 1440 gaacaagacc ttccaggaac tggctgtgtt ccatgatctg gaaggcatgt gggaggaact 1500 cagccccaag atctggacct tcatggagaa cagccaagaa atggaccttg tccggatgct 1560 gttggacagc agggacaatg accacttttg ggaacagcag ttggatggct tagattggac 1620 agcccaagac atcgtggcgt ttttggccaa gcacccagag gatgtccagt ccagtaatgg 1680 ttctgtgtac acctggagag aagctttcaa cgagactaac caggcaatcc ggaccatatc tcgcttcatg gagtgtgtca acctgaacaa gctagaaccc atagcaacag aagtctggct 1740 catcaacaag tccatggagc tgctggatga gaggaagttc tgggctggta ttgtgttcac 1800 1860 tggaattact ccaggcagca ttgagctgcc ccatcatgtc aagtacaaga tccgaatgga 1920 cattgacaat gtggagagga caaataaaat caaggatggg tactgggacc ctggtcctcg agctgacccc tttgaggaca tgcggtacgt ctgggggggc ttcgcctact tgcaggatgt 1980 2040 ggtggagcag gcaatcatca gggtgctgac gggcaccgag aagaaaactg gtgtctatat 2100 gcaacagatg ccctatccct gttacgttga tgacatcttt ctgcgggtga tgagccggtc aatgcccctc ttcatgacgc tggcctggat ttactcagtg gctgtgatca tcaagggcat 2160 2220 cgtgtatgag aaggaggcac ggctgaaaga gaccatgcgg atcatgggcc tggacaacag catcctctgg tttagctggt tcattagtag cctcattcct cttcttgtga gcgctggcct 2280 gctagtggtc atcctgaagt taggaaacct gctgccctac agtgatccca gcgtggtgtt 2340

tgtcttcctg	tccgtgtttg	ctgtggtgac	aatcctgcag	tgcttcctga	ttagcacact	2400
cttctccaga	gccaacctgg	cagcagcctg	tgggggcatc	atctacttca	cgctgtacct	2460
gccctacgtc	ctgtgtgtgg	catggcagga	ctacgtgggc	ttcacactca	agatcttcgc	2520
tagcctgctg	tctcctgtgg	cttttgggtt	tggctgtgag	tactttgccc	tttttgagga	2580
gcagggcatt	ggagtgcagt	gggacaacct	gtttgagagt	cctgtggagg	aagatggctt	2640
caatctcacc	acttcggtct	ccatgatgct	gtttgacacc	ttcctctatg	gggtgatgac	2700
ctggtacatt	gaggctgtct	ttccaggcca	gtacggaatt	cccaggccct	ggtattttcc	2760
ttgcaccaag	tcctactggt	ttggcgagga	aagtgatgag	aagagccacc	ctggttccaa	2820
ccagaagaga	atatcagaaa	tctgcatgga	ggaggaaccc	acccacttga	agctgggcgt	2880
gtccattcag	aacctggtaa	aagtctaccg	agatgggatg	aaggtggctg	tcgatggcct	2940
ggcactgaat	ttttatgagg	gccagatcac	ctccttcctg	ggccacaatg	gagcggggaa	3000
gacgaccacc	atgtcaatcc	tgaccgggtt	gttcccccg	acctcgggca	ccgcctacat	3060
cctgggaaaa	gacattcgct	ctgagatgag	caccatccgg	cagaacctgg	gggtctgtcc	3120
ccagcataac	gtgctgtttg	acatgctgac	tgtcgaagaa	cacatctggt	tctatgcccg	3180
cttgaaaggg	ctctctgaga	agcacgtgaa	ggcggagatg	gagcagatgg	ccctggatgt	3240
tggtttgcca	tcaagcaagc	tgaaaagcaa	aacaagccag	ctgtcaggtg	gaatgcagag	3300
aaagctatct	gtggccttgg	cctttgtcgg	gggatctaag	gttgtcattc	tggatgaacc	3360
cacagctggt	gtggaccctt	actcccgcag	gggaatatgg	gagctgctgc	tgaaataccg	3420
acaaggccgc	accattattc	tctctacaca	ccacatggat	gaagcggacg	tcctggggga	3480
caggattgcc	atcatctccc	atgggaagct	gtgctgtgtg	ggctcctccc	tgtttctgaa	3540
gaaccagctg	ggaacaggct	actacctgac	cttggtcaag	aaagatgtgg	aatcctccct	3600
cagttcctgc	agaaacagta	gtagcactgt	gtcatacctg	aaaaaggagg	acagtgtttc	3660
tcagagcagt	tctgatgctg	gcctgggcag	cgaccatgag	agtgacacgc	tgaccatcga	3720
tgtctctgct	atctccaacc	tcatcaggaa	gcatgtgtct	gaagcccggc	tggtggaaga	3780
catagggcat	gagctgacct	atgtgctgcc	atatgaagct	gctaaggagg	gagcctttgt	3840
ggaactcttt	catgagattg	atgaccggct	ctcagacctg	ggcatttcta	gttatggcat	3900
ctcagagacg	accctggaag	aaatattcct	caaggtggcc	gaagagagtg	gggtggatgc	3960
tgagacctca	gatggtacct	tgccagcaag	acgaaacagg	cgggccttcg	gggacaagca	4020
gagctgtctt	cgcccgttca	ctgaagatga	tgctgctgat	ccaaatgatt	ctgacataga	4080
cccagaatcc	agagagacag	acttgctcag	tgggatggat	ggcaaagggt	cctaccaggt	4140
gaaaggctgg	aaacttacac	agcaacagtt	tgtggccctt	ttgtggaaga	gactgctaat	4200
tgccagacgg	agtcggaaag	gattttttgc	tcagattgtc	ttgccagctg	tgtttgtctg	4260

4320 cattgccctt gtgttcagcc tgatcgtgcc accctttggc aagtacccca gcctggaact tcagccctgg atgtacaacg aacagtacac atttgtcagc aatgatgctc ctgaggacac 4380 gggaaccctg gaactcttaa acgccctcac caaagaccct ggcttcggga cccgctgtat 4440 4500 ggaaggaaac ccaatcccag acacgccctg ccaggcaggg gaggaagagt ggaccactgc 4560 cccagttccc cagaccatca tggacctctt ccagaatggg aactggacaa tgcagaaccc ttcacctgca tgccagtgta gcagcgacaa aatcaagaag atgctgcctg tgtgtccccc 4620 4680 4740 cctgacagga agaaacattt cggattatct ggtgaagacg tatgtgcaga tcatagccaa 4800 aagcttaaag aacaagatct gggtgaatga gtttaggtat ggcggctttt ccctgggtgt 4860 cagtaatact caagcacttc ctccgagtca agaagttaat gatgccacca aacaaatgaa 4920 gaaacaccta aagctggcca aggacagttc tgcagatcga tttctcaaca gcttgggaag 4980 atttatgaca ggactggaca ccagaaataa tgtcaaggtg tggttcaata acaagggctg 5040 gcatgcaatc agctctttcc tgaatgtcat caacaatgcc attctccggg ccaacctgca 5100 aaagggagag aaccctagcc attatggaat tactgctttc aatcatcccc tgaatctcac 5160 caagcagcag ctctcagagg tggctccgat gaccacatca gtggatgtcc ttgtgtccat 5220 ctgtgtcatc tttgcaatgt ccttcgtccc agccagcttt gtcgtattcc tgatccagga 5280 gcgggtcagc aaagcaaaac acctgcagtt catcagtgga gtgaagcctg tcatctactg gctctctaat tttgtctggg atatgtgcaa ttacgttgtc cctgccacac tggtcattat 5340 5400 catcttcatc tgcttccagc agaagtccta tgtgtcctcc accaatctgc ctgtgctagc ccttctactt ttgctgtatg ggtggtcaat cacacctctc atgtacccag cctcctttgt 5460 5520 gttcaagatc cccagcacag cctatgtggt gctcaccagc gtgaacctct tcattggcat taatggcagc gtggccacct ttgtgctgga gctgttcacc gacaataagc tgaataatat 5580 caatgatatc ctgaagtccg tgttcttgat cttcccacat ttttgcctgg gacgagggct 5640 5700 catcgacatg gtgaaaaacc aggcaatggc tgatgccctg gaaaggtttg gggagaatcg ctttgtgtca ccattatctt gggacttggt gggacgaaac ctcttcgcca tggccgtgga 5760 5820 aggggtggtg ttcttcctca ttactgttct gatccagtac agattcttca tcaggcccag 5880 acctgtaaat gcaaagctat ctcctctgaa tgatgaagat gaagatgtga ggcgggaaag 5940 acagagaatt cttgatggtg gaggccagaa tgacatctta gaaatcaagg agttgacgaa 6000 gatatataga aggaagcgga agcctgctgt tgacaggatt tgcgtgggca ttcctcctgg tgagtgcttt gggctcctgg gagttaatgg ggctggaaaa tcatcaactt tcaagatgtt 6060 6120 aacaggagat accactgtta ccagaggaga tgctttcctt aacagaaata gtatcttatc aaacatccat gaagtacatc agaacatggg ctactgccct cagtttgatg ccatcacaga 6180 gctgttgact gggagagaac acgtggagtt ctttgccctt ttgagaggag tcccagagaa 6240 6300 agaagttggc aaggttggtg agtgggcgat tcggaaactg ggcctcgtga agtatggaga 6360 aaaatatgct ggtaactata gtggaggcaa caaacgcaag ctctctacag ccatggcttt 6420 gatcggcggg cctcctgtgg tgtttctgga tgaacccacc acaggcatgg atcccaaagc ccggcggttc ttgtggaatt gtgccctaag tgttgtcaag gaggggagat cagtagtgct 6480 6540 tacatctcat agtatggaag aatgtgaagc tctttgcact aggatggcaa tcatggtcaa 6600 tggaaggttc aggtgccttg gcagtgtcca gcatctaaaa aataggtttg gagatggtta 6660 tacaatagtt gtacgaatag cagggtccaa cccggacctg aagcctgtcc aggatttctt 6720 tggacttgca tttcctggaa gtgttccaaa agagaaacac cggaacatgc tacaatacca 6780 gcttccatct tcattatctt ctctggccag gatattcagc atcctctccc agagcaaaaa 6840 gcgactccac atagaagact actctgtttc tcagacaaca cttgaccaag tatttgtgaa 6900 ctttgccaag gaccaaagtg atgatgacca cttaaaagac ctctcattac acaaaaacca 6960 gacagtagtg gacgttgcag ttctcacatc ttttctacag gatgagaaag tgaaagaaag 7020 ctatgtatga agaatcctgt tcatacgggg tggctgaaag taaagaggna ctagactttc 7080 ctttgcacca tgtgaagtgt tgtggagaaa agagccagaa gttgatgtgg gaagaagtaa 7140 actggatact gtactgatac tattcaatgc aatgcaattc aatgcaatga aaacaaaatt 7200 ccattacagg ggcagtgcct ttgtagccta tgtcttgtat ggctctcaag tgaaagactt 7260 gaatttagtt ttttacctat acctatgtga aactctatta tggaacccaa tggacatatg 7320 ggtttgaact cacacttttt tttttttttt gttcctgtgt attctcattg gggttgcaac 7380 aataattcat caagtaatca tggccagcga ttattgatca aaatcaaaag gtaatgcaca 7440 tcctcattca ctaagccatg ccatgcccag gagactggtt tcccggtgac acatccattg 7500 ctggcaatga gtgtgccaga gttattagtg ccaagttttt cagaaagttt gaagcaccat 7560 ggtgtgtcat gctcactttt gtgaaagctg ctctgctcag agtctatcaa cattgaatat 7620 cagttgacag aatggtgcca tgcgtggcta acatcctgct ttgattccct ctgataagct 7680 gttctggtgg cagtaacatg caacaaaaat gtgggtgtct ctaggcacgg gaaacttggt 7740 tccattgtta tattgtccta tgcttcgagc catgggtcta cagggtcatc cttatgagac 7800 tcttaaatat acttagatcc tggtaagagg caaagaatca acagccaaac tgctggggct 7860 gcaagctgct gaagccaggg catgggatta aagagattgt gcgttcaaac ctagggaagc 7920 ctgtgcccat ttgtcctgac tgtctgctaa catggtacac tgcatctcaa gatgtttatc 7980 tgacacaagt gtattatttc tggctttttg aattaatcta gaaaatgaaa agatggagtt 8040 gtattttgac aaaaatgttt gtacttttta atgttatttg gaattttaag ttctatcagt 8100 gacttctgaa tccttagaat ggcctctttg tagaaccctg tggtatagag gagtatggcc

actgccccac	tatttttatt	ttcttatgta	agtttgcata	tcagtcatga	ctagtgccta	8160
gaaagcaatg	tgatggtcag	gatctcatga	cattatattt	gagtttcttt	cagatcattt	8220
aggatactct	taatctcact	tcatcaatca	aatattttt	gagtgtatgc	tgtagctgaa	8280
agagtatgta	cgtacgtata	agactagaga	gatattaagt	ctcagtacac	ttcctgtgcc	8340
atgttattca	gctcactggt	ttacaaatat	aggttgtctt	gtggttgtag	gagcccactg	8400
taacaatact	gggcagcctt	tttttttt	tttaattgca	acaatgcaaa	agccaagaaa	8460
gtataagggt	cacaagtcta	aacaatgaat	tcttcaacag	ggaaaacagc	tagcttgaaa	8520
acttgctgaa	aaacacaact	tgtgtttatg	gcatttagta	ccttcaaata	attggctttg	8580
cagatattgg	ataccccatt	aaatctgaca	gtctcaaatt	tttcatctct	tcaatcacta	8640
gtcaagaaaa	atataaaaac	aacaaatact	tccatatgga	gcatttttca	gagttttcta	8700
acccagtctt	atttttctag	tcagtaaaca	tttgtaaaaa	tactgtttca	ctaatactta	8760
ctgttaactg	tcttgagaga	aaagaaaaat	atgagagaac	tattgtttgg	ggaagttcaa	8820
gtgatctttc	aatatcatta	ctaacttctt	ccactttttc	caaaatttga	atattaacgc	8880
taaaggtgta	agacttcaga	tttcaaatta	atctttctat	attttttaaa	tttacagaat	8940
attatataac	ccactgctga	aaaagaaaaa	aatgattgtt	ttagaagtta	aagtcaatat	9000
tgattttaaa	tataagtaat	gaaggcatat	ttccaataac	tagtgatatg	gcatcgttgc	9060
attttacagt	atcttcaaaa	atacagaatt	tatagaataa	tttctcctca	tttaatattt	9120
ttcaaaatca	aagttatggt	ttcctcattt	tactaaaatc	gtattctaat	tcttcattat	9180
agtaaatcta	tgagcaactc	cttacttcgg	ttcctctgat	ttcaaggcca	tattttaaaa	9240
aatcaaaagg	cactgtgaac	tattttgaag	aaaacacaac	attttaatac	agattgaaag	9300
gacctcttct	gaagctagaa	acaatctata	gttatacatc	ttcattaata	ctgtgttacc	9360
ttttaaaata	gtaattttt	acattttcct	gtgtaaacct	aattgtggta	gaaattttta	9420
ccaactctat	actcaatcaa	gcaaaatttc	tgtatattcc	ctgtggaatg	tacctatgtg	9480
agtttcagaa	attctcaaaa	tacgtgttca	aaaatttctg	cttttgcatc	tttgggacac	9540
ctcagaaaac	ttattaacaa	ctgtgaatat	gagaaataca	gaagaaaata	ataagccctc	9600
tatacataaa	tgcccagcac	aattcattgt	taaaaaacaa	ccaaacctca	cactactgta	9660
tttcattatc	tgtactgaaa	gcaaatgctt	tgtgactatt	aaatgttgca	catcattcat	9720
tcaaaaaaaa	aaaaaaaaa	a				9741

<sup>&</sup>lt;210> 11

<sup>&</sup>lt;211> 2261

<sup>&</sup>lt;212> PRT

<sup>&</sup>lt;213> Homo sapiens

<400> 11

Met Ala Cys Trp Pro Gln Leu Arg Leu Leu Leu Trp Lys Asn Leu Thr 1 10 15 Phe Arg Arg Gln Thr Cys Gln Leu Leu Glu Val Ala Trp Pro
20 25 30 Leu Phe Ile Phe Leu Ile Leu Ile Ser Val Arg Leu Ser Tyr Pro Pro 35 40 45 Tyr Glu Gln His Glu Cys His Phe Pro Asn Lys Ala Met Pro Ser Ala 50 55 60 Gly Thr Leu Pro Trp Val Gln Gly Ile Ile Cys Asn Ala Asn Asn Pro 65 70 75 80 Cys Phe Arg Tyr Pro Thr Pro Gly Glu Ala Pro Gly Val Val Gly Asn 85 90 95 Phe Asn Lys Ser Ile Val Ala Arg Leu Phe Ser Asp Ala Arg Arg Leu 100 105 110Leu Leu Tyr Ser Gln Lys Asp Thr Ser Met Lys Asp Met Arg Lys Val 115 120 125 Leu Arg Thr Leu Gln Gln Ile Lys Lys Ser Ser Ser Asn Leu Lys Leu 130 135 140 Gln Asp Phe Leu Val Asp Asn Glu Thr Phe Ser Gly Phe Leu Tyr His 145 150 155 160 Asn Leu Ser Leu Pro Lys Ser Thr Val Asp Lys Met Leu Arg Ala Asp 165 170 175 Val Ile Leu His Lys Val Phe Leu Gln Gly Tyr Gln Leu His Leu Thr 180 185 190 Ser Leu Cys Asn Gly Ser Lys Ser Glu Glu Met Ile Gln Leu Gly Asp 195 200 205 Gln Glu Val Ser Glu Leu Cys Gly Leu Pro Arg Glu Lys Leu Ala Ala 210 215 220 Ala Glu Arg Val Leu Arg Ser Asn Met Asp Ile Leu Lys Pro Ile Leu 225 230 235 240 Arg Thr Leu Asn Ser Thr Ser Pro Phe Pro Ser Lys Glu Leu Ala Glu 245 250 255 Ala Thr Lys Thr Leu Leu His Ser Leu Gly Thr Leu Ala Gln Glu Leu 260 265 270 Phe Ser Met Arg Ser Trp Ser Asp Met Arg Gln Glu Val Met Phe Leu 275 280 285 Thr Asn Val Asn Ser Ser Ser Ser Ser Thr Gln Ile Tyr Gln Ala Val 290 295 300 Ser Arg Ile Val Cys Gly His Pro Glu Gly Gly Gly Leu Lys Ile Lys 305 310 315 320 Ser Leu Asn Trp Tyr Glu Asp Asn Asn Tyr Lys Ala Leu Phe Gly Gly 325 330 335 Asn Gly Thr Glu Glu Asp Ala Glu Thr Phe Tyr Asp Asn Ser Thr Thr 340 345 350 Pro Tyr Cys Asn Asp Leu Met Lys Asn Leu Glu Ser Ser Pro Leu Ser 355 360 365 Arg Ile Ile Trp Lys Ala Leu Lys Pro Leu Leu Val Gly Lys Ile Leu 370 380 Tyr Thr Pro Asp Thr Pro Ala Thr Arg Gln Val Met Ala Glu Val Asn 385 390 400 Lys Thr Phe Gln Glu Leu Ala Val Phe His Asp Leu Glu Gly Met Trp 405 410 415 Glu Glu Leu Ser Pro Lys Ile Trp Thr Phe Met Glu Asn Ser Gln Glu 420 425 430 Met Asp Leu Val Arg Met Leu Leu Asp Ser Arg Asp Asn Asp His Phe 435 440 445 Trp Glu Gln Gln Leu Asp Gly Leu Asp Trp Thr Ala Gln Asp Ile Val 450 455 460 Ala Phe Leu Ala Lys His Pro Glu Asp Val Gln Ser Ser Asn Gly Ser 465 470 475 480 Val Tyr Thr Trp Arg Glu Ala Phe Asn Glu Thr Asn Gln Ala Ile Arg 485 490 495 Thr Ile Ser Arg Phe Met Glu Cys Val Asn Leu Asn Lys Leu Glu Pro 500 505 510 Ile Ala Thr Glu Val Trp Leu Ile Asn Lys Ser Met Glu Leu Leu Asp 515 520 525 Glu Arg Lys Phe Trp Ala Gly Ile Val Phe Thr Gly Ile Thr Pro Gly 530 540 Ser Ile Glu Leu Pro His His Val Lys Tyr Lys Ile Arg Met Asp Ile 545 550 555 560 Asp Asn Val Glu Arg Thr Asn Lys Ile Lys Asp Gly Tyr Trp Asp Pro 565 570 575 Gly Pro Arg Ala Asp Pro Phe Glu Asp Met Arg Tyr Val Trp Gly Gly 580 585 Phe Ala Tyr Leu Gln Asp Val Val Glu Gln Ala Ile Ile Arg Val Leu 595 600 605 Thr Gly Thr Glu Lys Lys Thr Gly Val Tyr Met Gln Gln Met Pro Tyr 610 615 620 Pro Cys Tyr Val Asp Asp Ile Phe Leu Arg Val Met Ser Arg Ser Met 625 635 640 Pro Leu Phe Met Thr Leu Ala Trp Ile Tyr Ser Val Ala Val Ile Ile 645 650 655

Lys Gly Ile Val Tyr Glu Lys Glu Ala Arg Leu Lys Glu Thr Met Arg Ser Leu Ile Pro Leu Leu Val Ser Ala Gly Leu Leu Val Val Ile Leu 690 695 700 Lys Leu Gly Asn Leu Leu Pro Tyr Ser Asp Pro Ser Val Val Phe Val 705 710 715 720 Phe Leu Ser Val Phe Ala Val Val Thr Ile Leu Gln Cys Phe Leu Ile 725 730 735 Ser Thr Leu Phe Ser Arg Ala Asn Leu Ala Ala Cys Gly Gly Ile 740 745 750 Ile Tyr Phe Thr Leu Tyr Leu Pro Tyr Val Leu Cys Val Ala Trp Gln 755 760 765 Asp Tyr Val Gly Phe Thr Leu Lys Ile Phe Ala Ser Leu Leu Ser Pro 770 775 780 Val Ala Phe Gly Phe Gly Cys Glu Tyr Phe Ala Leu Phe Glu Glu Gln 785 790 795 800 Gly Ile Gly Val Gln Trp Asp Asn Leu Phe Glu Ser Pro Val Glu Glu 805 810 815 Asp Gly Phe Asn Leu Thr Thr Ser Val Ser Met Met Leu Phe Asp Thr 820 825 830 Phe Leu Tyr Gly Val Met Thr Trp Tyr Ile Glu Ala Val Phe Pro Gly 835 840 845 Gln Tyr Gly Ile Pro Arg Pro Trp Tyr Phe Pro Cys Thr Lys Ser Tyr 850 855 860 Trp Phe Gly Glu Glu Ser Asp Glu Lys Ser His Pro Gly Ser Asn Gln 865 870 875 880 Lys Arg Ile Ser Glu Ile Cys Met Glu Glu Glu Pro Thr His Leu Lys 885 890 895 Leu Gly Val Ser Ile Gln Asn Leu Val Lys Val Tyr Arg Asp Gly Met 900 905 910 Lys Val Ala Val Asp Gly Leu Ala Leu Asn Phe Tyr Glu Gly Gln Ile 915 920 925 Thr Ser Phe Leu Gly His Asn Gly Ala Gly Lys Thr Thr Met Ser 930 935 940 Ile Leu Thr Gly Leu Phe Pro Pro Thr Ser Gly Thr Ala Tyr Ile Leu 945 950 955 960 Gly Lys Asp Ile Arg Ser Glu Met Ser Thr Ile Arg Gln Asn Leu Gly 965 970 975 Val Cys Pro Gln His Asn Val Leu Phe Asp Met Leu Thr Val Glu Glu 980 985 990 His Ile Trp Phe Tyr Ala Arg Leu Lys Gly Leu Ser Glu Lys His Val Lys Ala Glu Met Glu Gln Met Ala Leu Asp Val Gly Leu Pro Ser 1010 1015 1020 Ser Lys Leu Lys Ser Lys Thr Ser Gln Leu Ser Gly Gly Met Gln 1025 1030 1035 1030 Arg Lys Leu Ser Val Ala Leu Ala Phe Val Gly Gly Ser Lys Val 1040 1045 1050 Val Ile Leu Asp Glu Pro Thr Ala Gly Val Asp Pro Tyr Ser Arg 1060 1065 1055 Arg Gly Ile Trp Glu Leu Leu Leu Lys Tyr Arg Gln Gly Arg Thr 1075 Ile Ile Leu Ser Thr His His Met Asp Glu Ala Asp Val Leu Gly 1085 1090 Asp Arg Ile Ala Ile Ile Ser His Gly Lys Leu Cys Cys Val Gly 1105 1100 Ser Ser Leu Phe Leu Lys Asn Gln Leu Gly Thr Gly Tyr Tyr Leu 1115 1120 1125 Thr Leu Val Lys Lys Asp Val Glu Ser Ser Leu Ser Ser Cys Arg 1140 1135 1130 Ser Ser Thr Val Ser Tyr Leu Lys Lys Glu Asp Ser Val Asn Ser Ser Ser Ser Asp Ala Gly Leu Gly Ser Asp His Glu Ser Ser Gln 1160 Asp Thr Leu Thr Ile Asp Val Ser Ala Ile Ser Asn Leu Ile Arg 1180 1185 1175 Lys His Val Ser Glu Ala Arg Leu Val Glu Asp Ile Gly His Glu 1190 1200 1200 Leu Thr Tyr Val Leu Pro Tyr Glu Ala Ala Lys Glu Gly Ala Phe 1205 1210 1215 Val Glu Leu Phe His Glu Ile Asp Asp Arg Leu Ser Asp Leu Gly Ile Ser Ser Tyr Gly Ile Ser Glu Thr Thr Leu Glu Glu Ile Phe 1240 1245 Leu Lys Val Ala Glu Glu Ser Gly Val Asp Ala Glu Thr Ser Asp 1250 1260 Gly Thr Leu Pro Ala Arg Arg Asn Arg Arg Ala Phe Gly Asp Lys 1265 1270 1275 Gln Ser Cys Leu Arg Pro Phe Thr Glu Asp Asp Ala Ala Asp Pro 1290 Asn Asp Ser Asp Ile Asp Pro Glu Ser Arg Glu Thr Asp Leu Leu 1300 1305 Ser Gly Met Asp Gly Lys Gly Ser Tyr Gln Val Lys Gly Trp Lys 1310 1320 1320 16

Leu Thr Gln Gln Gln Phe Val Ala Leu Leu Trp Lys Arg Leu Leu 1325 1330 1335 Ile Ala Arg Arg Ser Arg Lys Gly Phe Phe Ala Gln Ile Val Leu 1340 1350 Pro Ala Val Phe Val Cys Ile Ala Leu Val Phe Ser Leu Ile Val 1365 Pro Pro Phe Gly Lys Tyr Pro Ser Leu Glu Leu Gln Pro Trp Met 1370 1375 1380 Tyr Asn Glu Gln Tyr Thr Phe Val Ser Asn Asp Ala Pro Glu Asp 1390 Thr Gly Thr Leu Glu Leu Leu Asn Ala Leu Thr Lys Asp Pro Gly 1410 1405 Phe Gly Thr Arg Cys Met Glu Gly Asn Pro Ile Pro Asp Thr Pro 1415 1420 1425 Cys Gln Ala Gly Glu Glu Glu Trp Thr Thr Ala Pro Val Pro Gln Thr Ile Met Asp Leu Phe Gln Asn Gly Asn Trp Thr Met Gln Asn 1445 1450 1455 Pro Ala Cys Gln Cys Ser Ser Asp Lys Ile Lys Lys Met Pro Ser Leu Pro Val Cys Pro Pro Gly Ala Gly Gly Leu Pro Pro Pro Gln Arg Lys Gln Asn Thr Ala Asp Ile Leu Gln Asp Leu Thr Gly Arg 1490 1495 1500 Asn Ile Ser Asp Tyr Leu Val Lys Thr Tyr Val Gln Ile Ile Ala 1510 1515 Lys Ser Leu Lys Asn Lys Ile Trp Val Asn Glu Phe Arg Tyr Gly 1520 1530 Gly Phe Ser Leu Gly Val Ser Asn Thr Gln Ala Leu Pro Pro Ser 1540 Gln Glu Val Asn Asp Ala Thr Lys Gln Met Lys Lys His Leu Lys 1550 Leu Ala\_ Lys Asp Ser Ser Ala Asp Arg Phe Leu Asn Ser Leu Gly 1570 1575 1565 Arg Phe Met Thr Gly Leu Asp Thr Arg Asn Asn Val Lys Val Trp 1590 Phe Asn Asn Lys Gly Trp His Ala Ile Ser Ser Phe Leu Asn Val 1595 1600 1605 Ile Asn Asn Ala Ile Leu Arg Ala Asn Leu Gln Lys Gly Glu Asn 1610 1620 Pro Ser His Tyr Gly Ile Thr Ala Phe Asn His Pro Leu Asn Leu 1630 1635

Thr Lys Gln Gln Leu Ser Glu Val Ala Pro Met Thr Thr Ser Val Asp Val Leu Val Ser Ile Cys Val Ile Phe Ala Met Ser Phe Val Pro Ala Ser Phe Val Val Phe Leu Ile Gln Glu Arg Val Ser Lys **1680** Ala Lys His Leu Gln Phe Ile Ser Gly Val Lys Pro Val Ile Tyr 1695 Trp Leu Ser Asn Phe Val Trp Asp Met Cys Asn Tyr Val Val Pro Ala Thr Leu Val Ile Ile Ile Phe Ile Cys Phe Gln Gln Lys Ser Tyr Val Ser Ser Thr Asn Leu Pro Val Leu Ala Leu Leu Leu Leu 1735 Leu Tyr Gly Trp Ser Ile Thr Pro Leu Met Tyr Pro Ala Ser Phe Val Phe Lys Ile Pro Ser Thr Ala Tyr Val Val Leu Thr Ser Val 1770 Asn Leu Phe Ile Gly Ile Asn Gly Ser Val Ala Thr Phe Val Leu 1785 Glu Leu Phe Thr Asp Asn Lys Leu Asn Asn Ile Asn Asp Ile Leu 1790 1795 1800 1790 1800 Lys Ser Val Phe Leu Ile Phe Pro His Phe Cys Leu Gly Arg Gly 1810 Leu Ile Asp Met Val Lys Asn Gln Ala Met Ala Asp Ala Leu Glu Arg Phe Gly Glu Asn Arg Phe Val Ser Pro Leu Ser Trp Asp Leu 1840 Val Gly Arg Asn Leu Phe Ala Met Ala Val Glu Gly Val Val Phe 1860 1855 Ile Thr Val Leu Ile Gln Tyr Arg Phe Phe Ile Arg Pro 1865 Arg Pro Val Asn Ala Lys Leu Ser Pro Leu Asn Asp Glu Asp Glu 1890 Asp Val Arg Arg Glu Arg Gln Arg Ile Leu Asp Gly Gly Gln 1895 1900 1905 Asn Asp Ile Leu Glu Ile Lys Glu Leu Thr Lys Ile Tyr Arg Arg 1910 1915 1920 Lys Pro Ala Val Asp Arg Ile Cys Val Gly Ile Pro Pro 1930 1935 Gly Glu Cys Phe Gly Leu Leu Gly Val Asn Gly Ala Gly Lys Ser 1940 Ser Thr Phe Lys Met Leu Thr Gly Asp Thr Thr Val Thr Arg Gly

1965 1960 1955 Asp Ala Phe Leu Asn Arg Asn Ser Ile Leu Ser Asn Ile His Glu 1970 1980 Val His Gln Asn Met Gly Tyr Cys Pro Gln Phe Asp Ala Ile Thr 1985 1990 1995 Glu Leu Leu Thr Gly Arg Glu His Val Glu Phe Phe Ala Leu Leu 2010 2000 Arg Gly Val Pro Glu Lys Glu Val Gly Lys Val Gly Glu Trp Ala 2015 2020 2025 2020 Ile Arg Lys Leu Gly Leu Val Lys Tyr Gly Glu Lys Tyr Ala Gly Asn Tyr Ser Gly Gly Asn Lys Arg Lys Leu Ser Thr Ala Met Ala 2055 Leu Ile Gly Gly Pro Pro Val Val Phe Leu Asp Glu Pro Thr Thr Gly Met Asp Pro Lys Ala Arg Arg Phe Leu Trp Asn Cys Ala Leu 2085 Ser Val Val Lys Glu Gly Arg Ser Val Val Leu Thr Ser His Ser 2090 2095 2100 2100 2090 Met Glu Glu Cys Glu Ala Leu Cys Thr Arg Met Ala Ile Met Val Asn Gly Arg Phe Arg Cys Leu Gly Ser Val Gln His Leu Lys Asn 2125 Arg Phe Gly Asp Gly Tyr Thr Ile Val Val Arg Ile Ala Gly Ser 2140 Asn Pro Asp Leu Lys Pro Val Gln Asp Phe Phe Gly Leu Ala Phe Pro Gly Ser Val Pro Lys Glu Lys His Arg Asn Met Leu Gln Tyr 2175 2170 Gln Leu Pro Ser Ser Leu Ser Ser Leu Ala Arg Ile Phe Ser Ile 2180 Leu Ser Gln Ser Lys Lys Arg Leu His Ile Glu Asp Tyr Ser Val **2200** 2195 Ser Gln Thr Thr Leu Asp Gln Val Phe Val Asn Phe Ala Lys Asp 2215 2220 Gln Ser Asp Asp Asp His Leu Lys Asp Leu Ser Leu His Lys Asn Gln Thr Val Val Asp Val Ala Val Leu Thr Ser Phe Leu Gln Asp 2250 Glu Lys\_ Val Lys Glu Ser Tyr\_ Val 2260 <210> 12

<211>	26	
<212>	DNA	
<213>	Homo sapiens	
<400> ttgccg	12 tcga ctgttttggg tagttt	26
<210>	13	
<211>	25	
<212>	DNA	
<213>	Homo sapiens	
<400>	13 tcga ccggctctgt tggtg	25
geeerg	tega teggetetge teggteg	_,
<210>	14	
<211>	29	
<212>	DNA	
<213>	Homo sapiens	
<400>	14 gttt aggcttgggc gcccggctc	29
cegeee	gere aggereggge geeeggere	
<210>	15	
<211>	29	
<212>	DNA	
<213>	Homo sapiens	
<400>	15 ccgg gaggcttggg cgggaggga	29
cugagg	ссяя эмээсссяну сунундан	23
<210>	16	
<211>	28	
<212>	DNA	
<213>	Homo sapiens	

<400> cgtgct	16 ttct gctgaggatg cgaactac	28
<210>	17	
<211>	26	
<212>	DNA	
<213>	Homo sapiens	
<400> cggctc	17 ctca cggctttctg ctgagt	26
<210>	18	
<211>	24	
<212>	DNA	
<213>	Homo sapiens	
<400>	18 tttc tgctgagtga ctga	24
9		
<210>	19	
	34	
	DNA	
<213>	Homo sapiens	
<400> ctttgt	19 gtga tagtaaacta ctgcgctcgg tgca	34
210		
<210>	20	
<211>	20	
<212>	Homo sapiens	
<213>	Homo Saptens	
<400> actccc	20 aagc tttgtcgtgg	20
<210>	21	
<211>	13	

<212>	DNA	
<213>	adeno-associated virus 2	
<220>		
<221>	misc_feature	
<222>	(6)(8)	
<223>	"n" is chosen from g, a, t and c	
	21	
tggcan	nntg cca	13
<210>	22	
<211>	29	
<212>	DNA	
<213>	Homo sapiens	
<400>		
gageeg	ggcg cccaagccta aacgggcga	29
<210>	23	
<211>	29	
<212>	DNA	
<213>	Homo sapiens	
	23	20
t ccccc	ccgc ccaagcctcc cggcctctg	29
<210>	24	
<211>	28	
<212>	DNA	
<213>	Homo sapiens	
<400>		~~
glagil	cgca tcctcagcag aaagcacg	28
<210>	25	

<211>	26	
<212>	DNA	
<213>	Homo sapiens	
<400>	25 gcaga aagccgtgag gagccg	26
acceag	geaga aageegegag gageeg	20
<210>	26	
<211>	23	
<212>	DNA	
<213>	Homo sapiens	
<400>		23
yaaayy	gagcc ggggcccgcc cca	23
<210>	27	
<211>	33	
<212>	DNA	
<213>	Homo sapiens	
<400>	27 cgagc gcagtagtta ctatcacaca aag	33
cycacc	cyaye yeayeayeta etateacaca aay	23
<210>	28	
<211>	22	
<212>	DNA	
<213>	Homo sapiens	
<400>		22
yayaay	gcttc ggctcggctc tg	22